SCHOOL AND SOCIETY

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THE TEACHING OF SCIENCE[1]

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IN this day science is the field of research *par excellence*. Nothing so exciting happens in linguistics or literature, even though an occasional discovery of some document referring to the life of Shakespeare is recorded on the front page of the newspapers. The discoveries of social science, while they intrigue us, seldom satisfy our demand for predictive insight into the confused state of our practical politics, economics and sociology. As for mathematics, its discoveries are so erudite that only a few understand what they mean.

The natural sciences seem to deal with solid facts: living creatures, the forces and materials of which our small world and the great heavens are composed. These are the things we most want to comprehend; for amid the changes of time and circumstance there must, we feel, be an abiding and invariable truth which is the order of life and matter. If we could but comprehend this order we should be able to draw the most useful conclusions as to our individual and social fortunes.

And who can doubt the practical significance of applied science? Are we not preventing disease, breeding desirable types of organisms, controlling and directing the forces of nature to satisfy our human needs? Have we not in the past few decades become world-minded by virtue of new means of communication and transportation which bring us in touch with our fellow citizens in the remotest corners of the earth?

Like it or not, we now live in a single world and are in daily contact with all the kinds of people who inhabit the globe. Scientific discoveries and their applications have so changed the manner and means of living that despite all efforts we can not go back to the simple life of a self-contained community.

What, then, can be more important in the curricula of our schools and colleges than an introduction to science, its facts, concepts and methods? This challenge to education is inescapable, and yet science is hard to teach. Though the facts with which it deals are demonstrably obvious, like the living cell, the molar mass and the phenomena of electricity, the concepts which interpret these facts are not only complicated, they are highly contingent and subject to change whenever a new experimental result is recorded.

The pursuits of experimental science are all of recent date. In the schools the science of our fathers, in addition to mathematics, consisted in natural philosophy and natural history. Natural philosophy was a brief description of the physical universe, while natural history described and classified the animal, vegetable and mineral kingdoms of the earth.

[1] Address delivered before the Progressive Education Association, New York, February 25, 1938.

I have in my possession a small text-book which appears to have been in common use in the decades preceding our Civil War. It is entitled "The Class Book of Nature comprising lessons on the Universe, the three Kingdoms of Nature, and the Form and Structure of the Human Body with questions and numerous engravings—edited by J. Frost." My copy is of the twelfth edition, 1848, though its original copyright bears the date, 1836.

I quote from the preface:

> The editor believes that a work of this description will be acceptable to parents, teachers, and pupils. The summary views of the universe, and of the several classes of objects comprised in the departments of zoology, botany, and mineralogy, will supply a want which has been frequently complained of by persons interested in education. That part of the volume which is devoted to the description of the human form and structure is, perhaps, the most important of all, though it relates to a subject which has been surprisingly neglected in our schools and academies. While our children are taught many branches of learning which are nearly useless, not a single school book in common use contains that amount of information concerning the physiology of man which is essential to the preservation of health and the intelligent observation of those natural laws on which much of our comfort and tranquility depends.

Here, evidently, is a pioneering project in progressive education, and one which, by intention at least, is comparable to a present-day course in general science.

To-day, however, we should be less satisfied with a natural history which raises no question of cause or condition that can not safely be referred, as our text-book states, to "the entire system of things which God has created." Since science has become experimental, authoritarian views have proved their inadequacy. Science in order to be acceptable must not only preserve health and general prosperity, it must also imply and warrant a conceptual system of natural phenomena. It is no longer enough to believe that the order of nature proceeds from the Great Artificer. His works must also stand to reason, and if we can not reason them we can not know the facts nor be assured of their practical use.

A course in general science to-day, though it has at its disposal an incomparably richer body of knowledge, does not present this knowledge in an intelligible manner. Even the teacher is often unaware of the significant implications of his subject-matter. One hundred years ago these implications all focused on the Deity. The rest was largely a descriptive classification of facts. As investigation proceeded, the morphological and taxonomic details became more and more evident in finer and more elaborate subdivisions of the animal, vegetable and mineral kingdoms. The special sciences arose, each from a special interest: botany, zoology, entomology, bacteriology, physiology, psychology, physics, chemistry, astronomy, and from these other specialties dealing with all manner of functional applications.

Soon the field of science became so elaborately subdivided that no scientist could comprehend the scope and meaning of it all. Specialists taught their specialties in school and college, and the student was left to synthesize as best he might a range of subjects which even his teachers made no effort to comprehend.

Only recently have we begun to recognize that an education of this order in the sciences can lead only to the training of specialists, and that a general education which the great majority of students demand is no longer possible. The recognition of this situation has led to the present reorganization of the curricula of schools and colleges, and the introduction of survey courses which shall provide a synthesis and a comprehension of the problems, methods, results and prospects of the entire field of scientific enquiry.

Courses in general science are now a common feature of the curricula of school and

college—and the book market is filled with texts which aim to meet the same need which inspired the editor of "The Class Book of Nature."

Yet the problem of a general education in science is still imperfectly solved; for these courses and books are in the main as superficial and unrewarding as "The Class Book of Nature" would now appear to be. When the "Class Book" was written there was not much more to be said of the subject than that God had provided these wonders, an acquaintance with which might lead to some useful applications, especially in respect of one's personal health. To-day these wonders—no less wonderful, perhaps—are useful only to those who have acquired a technological proficiency in their application. Scientific facts which in former generations seemed the immutable evidence of law and order in a divinely appointed universe are no longer regarded as "facts" save under a special set of conditions arising from a special set of premises. The teaching of facts becomes dubious when the "facts" change their shape from day to day.

Teaching is not concerned primarily with facts, but with *understanding,* and the avenues of understanding are *doing, feeling* and *knowing.*

In order to understand anything one must first *do* it. Ways and means are acquired by doing, and that is why a laboratory is indispensable to the teaching of science. A second kind of teaching is concerned with *feeling,* and its outcome is knowledge by way of appreciation. It attains its highest level in art, an understanding of which is not rational, not based on discerned facts, but on felt congruities in behavior. Thus we gain insight by "hunches," by general impressions which move us in ways conformable, we know not how, to the natural ways of apprehensive behavior.

A "bright idea" originates in a comprehension, the rightness of which is *felt* before it can be *known.* The process of analytic knowing follows the feeling of rightness, and, if it stands to reason, the bright idea may find its formulation in a great idea with the significance of a law. Newton's discovery of the law of gravity, Robert Mayer's discovery of the law of the conservation of energy, Kekulé's notion of the benzine ring and many other scientific principles arose as bright ideas and not as results of rigorous thinking. The remark of Helmholtz that nothing is more practical than a good theory is subject to this interpretation.

Insights come of a sudden, all at once, in the midst of contemplation and manipulation, sometimes even in day-dreams. Theories are built on insights. They are practical when good, and they are good when they work. In other words, the goodness of a theory is pragmatic. The teaching of science demands insight on the part of the pupil, and it is the formulation of his insight which makes any theory good and practical for him.

Insight leads to knowledge when it becomes intellectual and logical. The parts of a thing known stay put, fit together and stand to reason. Even when the ultimate reference is an unknowable Deity who ordains and controls the facts of nature, the scheme may be in principle rational, and its classified features each logically ordered and placed. Thus *doing* comes first, and is *felt* to be right or wrong. The elaboration of this insight is intellectual, and its product is what we call *knowledge.*

At a recent meeting of educators the topic of discussion was the administration of admissions to college. The case was cited of a boy with an unusual talent for boat-building. Not only had he made many plans and models with remarkable skill, his inventiveness in design had commended itself to experienced builders of boats. This boy had neglected some phases of his schoolwork in the exercise of his special interest

and talent. He was now ready for college but unable to meet college requirements in certain specified studies.

Should this talented boy be denied education at the college level because of his neglect of the usual routine of linguistic and mathematical training?

In the course of the debate that ensued no less than three boat builders were cited, each an applicant for admission to some college, without the usual complement of entrance units.

A few years ago a much larger number of talented youngsters could have been found whose qualifications for the privilege of advanced study were chiefly those of demonstrated ability to build and operate short-wave radio sets.

In both instances the education of these youngsters was self-directed and largely confined to doing. It would be interesting to know the subsequent careers of those boys who manifested such an uncanny expertness in radio-engineering when that was a prevailing fad. It is unlikely, I think, that a large number of them became engineers or even expert technicians. We are all asking the question: how can we take hold of special interests and their attendant skills and use them as avenues of approach to an education in science which will become general and significant in the conduct of life? One thing is fairly obvious. We do not know how to employ and direct the skill which a boy or girl so readily acquires when intent upon a concrete undertaking. In attempting to direct an empirical understanding which arises with skilful manipulations, we fail to arouse any real interest in knowing physics or mathematics. Effectively taught though he is by feeling and doing, the youth does not know exactly what he feels and does.

The same feeling which guarantees to an artist the rightness of a situation and its arrangement of details also guides mechanical skills and operations. The ways and means of artists and artisans are the same —only the idea or meaning of the expression is different. Without proceeding to a level of discernment in which both felt impressions and skilled manipulations reveal their secrets in terms of abstract logical reasoning, neither art nor artifice is informed with knowledge.

As a class, artists notoriously lack knowledge. If they are good enough as artists no one cares. Indeed, it would be a mistake to insist that an artist should understand logically all the principles and implications of his art. Instruction in the theory of art, if, indeed, it took hold of the artist, would be more likely to spoil than to improve his art.

As for the mechanically gifted, they too operate at a level of skill, and their understanding resides primarily in their manipulative activities. We should not deny the opportunity to think and know to those who possess the skill to do. Instead, we should invite thought at every point. Yet we know too well that sometimes even book-learning fails to provoke thought, and is evanescent because it is disengaged from the reader's own feeling and doing. Our leading engineers are usually persons who possess skill and also knowledge. But there are many highly skilled mechanics who, like our youthful boat builders and radio experts, do not know, and some of them will never learn, the comprehensive theory that underlies their art and skill. A complete education must include knowing, along with feeling and doing; but feeling and doing are primary, whereas knowing comes only to those who both feel and do. All animals improve their behavior by feeling and doing. If knowing is not entirely reserved for man, he at least employs it to a greater extent than other animals, and so designates himself *homo sapiens*.

In order to be effective the teaching of science must follow the same order which nature herself has prescribed for man's de-

velopment. The meaning of a scientific observation must have shape and color in order to attract and impress the youth whose attention is to be engaged by it. Having felt the meaning to be impressive, and having seen and directed its operation, terms like the gravity of Newton, the energy of Mayer, and the molecular pattern of Kekulé assume an intriguing reality. Formal science proceeds to trace, relate, invent, and check these meanings with others, fitting them both to wider and narrower systems of related phenomena.

The teaching of science is not easy. One can learn the ways of scientific inquiry by apprenticeship, but not by precept. Only a few researchers are required, whereas the great masses use the products of scientific inquiry as they take shape in airplanes, radio sets, automobiles, and the like. Not many people understand the "particular go" of any of these devices, yet they use them as means to other ends which they do understand.

Should the so-called educated man—that is the product of a four-year college—be expected to understand science? Should he have knowledge of the big ideas, the principal concepts and the status of pioneering research in the physical and biological sciences, not to mention the social and psychological sciences? And if he should, can he have it? I question not the right of opportunity for gaining such knowledge in schools and colleges, either to satisfy an avocational interest or to begin a career as a scientist. I question how much general education in science can be purveyed to the rank and file of a school population. This question is, I believe, highly pertinent to the program of an organization which is devoted to progressive education.

Because the modern world has been, and is still being, revolutionized by the results of scientific discoveries and their applications, it does not follow that everyone should or could understand what science is about. Some things can be said of science as readily and clearly as about the arts and skills. But, like the arts and skills, science is truly comprehended only by those who practise it.

Practise by doing, feeling and knowing is the only means of education. To read about science in a book is like reading a play. If your previous knowledge and imagination suffice the result may be both enjoyable and comprehensible. But the art of acting is only suggested by the lines of the dialogue, and it is almost impossible to understand many scientific papers without being able to feel and imagine the procedures of a laboratory.

Science teaching without laboratory exercises is chiefly giving information which will stick in the memory in proportion to the cogency of the argument and the startling impression made by the demonstrations. Useful information much of it is, especially when it can be applied to oneself and one's belongings, but scientific thought which depends upon the cogency of verbal expression and the impressions gained from a vivid demonstration, is not quite the genuine article. It is at best superficial and it may be grossly misleading. At the same time when Einstein's theory of relativity was mentioned almost daily on the front pages of our newspapers it was also said that only half a dozen men in the world knew what it meant. Yet the term relativity was highly suggestive, and I have no doubt it did much to revolutionize the ideas of millions of people who had grown up in, and hitherto had believed in, a static universe. Had it not been for that blessed word relativity, had Einstein used some other less appealing term, it may be doubted if so wide-spread an interest could have been aroused. It is still doubtful if Einstein's discovery was intended to promote any such revolution in common ways of thinking and knowing as seems to have resulted.

In the teaching of science the subdivisions of every field have become so numerous that a university to-day will offer more courses in every subject than any one student can be expected to take, and, as previously remarked, no single scientist will comprehend them all. Further, no synthesis of the subject is provided save in the most elementary course which surveys the field for beginners. These beginning courses in science are effective enough as introductions to a career of specialization, but taken by themselves they are little more than a survey of problems and results in a logical order. A full comprehension of the subject is lacking because the student has no opportunity to feel and do the things which the scientist has felt and done in stating the problems and results which the textbook records.

To meet more general needs a new type of course in science is being born, a course in which doing and feeling leads to knowledge. It is not a course which takes one a few steps on the way to the career of a scientist, neither is it a survey of problems and results logically arranged and classified. It is an introduction to those ideas, those concepts, those functional relations which underlie and constantly promote scientific inquiry in the field to be studied. The arrangement and classification of facts is of secondary importance in such a course. Nor is the statement of abstract principles and laws a primary concern. Instead, the main question is: how do these things work, be they plants or animals, planets or stars, molecules or atoms?

Integration is the new and appealing word of this new-type course. Properly understood, it has an important significance. But its meaning is not that of the integral calculus, where a field is surveyed and summarized as if it were composed of an infinitude of entities.

In a paper published some years ago I suggested the use of this term *integration* to replace *mechanism* and *teleology* with their conflicting meanings. I remarked then that the term was somewhat prejudicial to my meaning because of its commonly understood emphasis on *parts* or elements. "Thus, the Oxford Dictionary states that '*integration* is the making up or composition of a whole by adding together or combining the separate parts or elements.' But a somewhat closer agreement with the proposed usage is given in a citation from T. Granger, 1620, that 'the Integrall in Logike . . . respecteth . . . integration whereby the totall is made a totall of all his members together.' "[2]

When, in a recent book on the subject, integration is made "the short-hand word used to designate intelligent behavior" which is integrated when in equilibrium, disintegrated when not; when it is further stated that "such behavior is purposeful, directed towards ends, consciously formulated and reformulated in the process by the individual as he resolves his disturbance,"[3] we are led into further confusion, for the word then used means no more than the general term education.

The precise meaning of integration for our purposes to-day is the concept of wholeness which must first be felt in doing something, before it can be formulated as knowledge of that thing. The events we describe and try to explain are dynamic processes, not subject to division into parts which are entities, but into parts which are members, having no meaning or entity aside from the wholes to which they belong. The concept of wholeness brings knowledge, but it can not be fully grasped in a merely verbal or mathematical statement. Dynamic processes are known only when they can be felt and undertaken.

[2] *Cf.*, "Crossing the Rubicon between Mechanism and Life," *Jour. Philos.*, 22: p. 288, 1925.

[3] L. Thomas Hopkins, "Integration, Its Meaning and Application." 1937, p. 1–2.

The problem of the physical sciences is the investigation of those processes which produce and account for the patterns of molar, molecular and atomic phenomena. These processes pervade the universe and are found whenever a physical inquiry is made. They can be studied in the most elementary course, and such comprehension of them as may be acquired is applicable to every subsequent inquiry that may be made.

The problem of the biological sciences adds the comprehension of those functions which characterize life: respiration, digestion, sensitivity, action, etc. These too are fundamental, and in the measure in which they are comprehended they serve in all subsequent inquiries in and out of school.

The new-type functional courses in science are not immediately available, and they can not be effectively planned by educationists. We shall have to await the scientist's own reconstruction of his enterprise. If he is somewhat slow in so doing, that is because his main concern is the frontier wilderness which he is clearing and planting by his pioneering efforts. He leaves behind him those of lesser knowledge to consolidate his gains and apply them as best they may.

Let us therefore consolidate the gains which scientific research has given us. There are to-day many men of science who comprehend what is going on at the frontier of research in their fields, and who also recognize that the old-fashioned type of elementary course in their subjects is out of date, misleading and unsuited, not only for the purposes of a general education, but also for the purpose of training scientists. Let us engage their interests—the very best of them—in re-making our general courses. We may then expect to have a curriculum in science for school and college which will serve the true purpose of a general and progressive education for all our young people, and for each in the measure of his ability to partake of it.

CITIZENS EVALUATE THEIR SCHOOLS

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A SHORT time ago the State Department of Public Instruction of Michigan requested a number of individuals to circularize the leading citizens of various communities for the purpose of ascertaining their reactions to a number of questions relative to the public schools. Among the questions were the following: (1) In what ways, in your opinion, are the schools failing to do what you think they should? (2) In what ways are the schools doing a particularly good job?

The present writer served the state in the capacity of circularizer in the town of Albion, which has a population of about nine thousand. When the replies showing both the satisfactions and the dissatisfactions were tabulated they were found to be so varied that a mere listing of them extended into great lengths. We shall confine ourselves in this paper to commenting on a few of the replies to Question 1, which is designed to bring out the dissatisfactions of citizens with respect to their schools.

But before taking up any of the particular reactions, we might say a few words relative to the responses as a whole. The most striking thing brought out by the replies of the citizens is that what is expected of the schools to-day differs markedly from what was expected of them at an earlier time. In pioneer days schools were expected merely to peddle knowledge. Moreover, the knowledge which the schools were expected to

peddle was limited to a few very simple and definitely specified types. No one at that time expected the schools to do literally hundreds of things which are now expected of them.

In those pioneer days life was simple and very little formal education was needed to enable a man to live his life as he was expected to live it. The school shared many responsibilities with the home and the church and other agencies which the schools are asked to assume now almost entirely unaided. The home then was a more predominant social force than it is now. Religion was authoritative, economics and industry were simple and the rules of the game of life were more easily understood by all. Codes of ethics were much more simple, and digressions from them were more readily detected than they are to-day.

When American society was in its infancy men did not have much in the way of material wealth and social opportunities, but they knew from whence it came, and if they wanted more they knew pretty well how it was to be gotten. People generally tried to be content with a simple life, for if they were to have more they knew they would have to expend more energy.

Into this simple picture came the industrial revolution with its many inventions which greatly complicated all life. With the coming of the railroads, telephones, electric power, automobiles, etc., the whole pattern of life changed. Men, just ordinary men, made demands for things that only kings had previously enjoyed. With this change of the pattern of life came a whole new set of educational problems, not only problems in technical education, but also educational problems of a social nature as well. Complicated credit systems which expanded man's power and man's relations came into being. We welcomed all this and characterized it as progress. But soon we found that we did not understand our social order adequately. So we called on the school to help us solve the problems of living in a new industrial world. The schools began to try to meet the demands. They did not succeed very well, for they had no precedent to go by. Moreover, they had hardly gotten started when the world war came, and the schools were asked to look into that little misunderstanding and to tell us how we could avoid another such a breach of etiquette. Hardly had this demand on the schools been made when the depression came. When that happened the schools were actually blamed for the disorder and asked to revamp their programs in such a way as to get us out and keep us out of such unpleasant circumstances. We accused the schools of not dealing with real life. The schools, wishing to please and not knowing any better, started to deal with real life and live issues. But they had no more than gotten started when we had a long list of laws passed to put the schools and the teachers in their places. We told the teachers they must not deal with controversial issues and that they should perhaps after all keep to Euclidean geometry and the Punic Wars and leave the world of present-day affairs to us, who are more intelligent, to handle.

Some Specific Dissatisfactions

Discipline: Quite a number of citizens expressed their belief that the schools should discipline the pupils more. This is not a surprising response. Still, it is a very interesting one, if one stops to think of some of the implications of such a reaction. We all know that our generation is one in which there has been a veritable din of voices demanding freedom from social controls, and the chorus was never louder than at the present time. But here is one discord. What does it mean? Is it true that while we are clamoring for freedom from restraint for ourselves we are coming to be a bit dubious about the freedom of others? Or is it a situation best described by an old song, "When you get what you want, you

find it isn't what you wanted at all"? But perhaps we want discipline for children and freedom for adults. But the psychologists tell us that we can not train for a society of freedom in a school atmosphere of restraint. They tell us that an individual who is reared in an atmosphere of restraint and then turned loose abruptly into a world of unprecedented freedom is almost sure to be either the most helpless or the most dangerous sort of member of society. Such an individual, we are told, is almost sure to respond in either one of two ways, either one of which is socially undesirable. Either he will be timid and afraid and unwilling to make the adventure which the life of our day demands, or else he will throw himself with such a reckless abandon into this newfound freedom that only the sky will be the limit.

Character education: Some citizens feel that the schools are not doing enough in the way of character education. But what do we want the schools to do in this line? Do we want the schools to stress the ethical codes more; teach a knowledge of what is right and wrong? Well, the schools can do a lot in that direction, and they are doing a great deal of such teaching; perhaps all they can within the limits which we have placed upon them. But while teaching the ethical code is necessary and, good as far as it goes, it is not enough.

Dr. George E. Hill, now at the University of Pennsylvania, made a study of 1,500 boys and young men at the State Reformatory at Pontiac, Ill., a few years ago. He found no significant difference in the knowledge of right and wrong between this group and a large number of non-delinquent boys and young men. He then went back to the environment from which the boys had come to see if he could find the cause of their presence in the reformatory. He was not able to find any one thing which might be characterized as the cause of delinquency, but he did find certain typical patterns of environment furnished by the school and the home and the community which seemed to be typical of the environment from which boys had come. (1) There was generally a lack of knowledge of the boy on the part of the school. (2) Schools studied lacked the services of a child study expert. (3) The parents were not in harmonious relation with the school nor did they take part in parent-teacher associations. (4) The community did not have a satisfactory recreational program or else the boy had not participated in such if one had been provided.

The matter of character building is a community problem and must be attacked by all the agencies therein, including, of course, the schools. But character is something that can not be taught as the multiplication table is taught. To place all the responsibilities for character building on the schools would be to ignore the fact that at best the school's influence over the child is but partial. Not infrequently the community influences may negate the work done by the schools. The schools can do little more than reflect the table of values of society. If the table of value of a community is of a certain sort the school can not successfully teach another sort.

What, for instance, do we want the schools to teach now relative to the use of tobacco? Do we want the teacher to teach the children not to use it, or to teach them how to use it? During the early years of this century the schools were teaching that cigarette smoking was injurious. The schools do very little, if any, of that sort of teaching any more. Why? Is it because the supposed facts about the evil effects of cigarette smoking were found to be untrue? Well, perhaps so. But perhaps there is another reason. You remember the world war was on during the latter teens of our century and during that time life appeared very cheap and uncertain. Because of that fact many seemed to think that the use of cigarettes might make life a little more tolerable. So many who had

never used cigarettes and who perhaps under normal circumstances never would have used them took up the habit. You remember also that woman suffrage came in about that time and gave women some privileges they had not before enjoyed. The women once on the march decided to explore all the territory which had previously been occupied by men only. So the women took up the cigarette habit. Whether cigarettes added greatly to the richness of life or whether the habit was found too difficult to break we will leave to the reader to decide, but at any rate the women are now very profitable customers of the cigarette industry.

We are not trying to make cigarette smoking a moral issue. Nor are we contending that teaching relative to such should be a part of a character teaching program, though it was considered a legitimate part of such a program a few years ago. What we are trying to say is this: It is almost useless now to try to teach young people not to smoke, for the table of values of the community will not support such teaching.

What shall the school teach about the drinking of liquor? A great many people think that a character teaching program can not neglect the problem of liquor drinking. But what shall the schools teach? Shall they teach our young people not to drink or how to drink? When we had prohibition we could teach them not to drink with some degree of consistency. Whether the teaching even then accomplished much or not is a matter we need not consider here. But we repealed the prohibiton law. We said, "It doesn't work," and that was true, for no law works unless we work it. Perhaps the law was not workable. But perhaps we just did not have the courage to work it. I do not know. But that is not the point. The point is that the table of values of the community now does not very well support the schools in teaching youth not to drink.

Sex Education: Some of us parents want more sex education taught in the schools. But how much and what kind of sex education do we want? As a matter of fact, how much will we allow the schools to teach? Many teachers have not forgotten the unfortunate experience of Max Meyer and some of his coworkers at the University of Missouri a few years ago when they attacked the problem of sex education with young adults. What might happen if teachers tried to give sex instruction to youth of a tender age we could easily guess. Of course, we can teach children that human beings are bi-sexual and that is being done, I think. I doubt if any young people are suffering from a lack of such knowledge. The schools must do more than that, we say. Well, what more do we want them to do? Do we want the schools to tackle the problem of "necking"? If so, what do we want taught? Shall the schools teach the young people not to neck or how to neck? Shall the schools teach youth the use of contraceptives? Shall the schools teach youth how far to go and be safe or shall they teach them that the sex impulse is a force they dare not trifle with? If we think that the latter type of teaching is the kind the schools should attempt, the question at once arises, Will the table of values of the community support such teaching?

Then there is another problem. Suppose we suggest that the schools teach the youth what happens to them mentally and physically as the result of necking. Do we know what happens and if we parents know, should we expect the teachers to know? Most of our school teachers are unmarried maidens. Do we expect them to teach the students about the mental and physical effects of necking? If what our leading educators tell us is true, we learn only what we live.

What shall the schools teach about marriage? Shall the schools teach that marriages are made in heaven and have the

pupils laugh in the teachers' faces? They can not be expected to do otherwise if they come from communities where divorce is so common. Perhaps the typical attitude toward marriage is very well expressed in that unique play, "Pride and Prejudice," in which a daughter says to her mother, "Mother, are marriages made in heaven?" The mother replies, "Nonsense, daughter, if we women depended upon heaven and upon the men we would all be old maids." Do we want our daughters to be cultured and refined and our boys to be considerate and respectful or do we want them to substitute sophistication for culture and to amuse themselves with the sex impulse? You say such questions are ridiculous. You know what we as parents want. Well, maybe I do, and I think I know how we are to get it, if at all. We are not going to get it by handing out well-worn platitudes which do not square with the lives of the older people of the community. We can get it only if the table of values of the community will support what we want taught.

Religion: Some parents say they want more teaching of religion in the schools. Those that say they want the Bible used more in the schools probably have in mind the same thing. Some people have accused the public schools of being Godless, and to a certain extent that accusation is correct. Perhaps it is very unfortunate that such is the case. One noted writer has said that "the urgent task of our time is to recover a religious faith as a basis of life, both personal and social." When religion breaks down ideals break down. One careful observer has said that one's religious philosophy largely determines his philosophy of sex relations, which we have just discussed. If such is the case it is unfortunate that our schools are not more thoroughly penetrated with a fine religious spirit. But why are they not? It is because we parents can not agree on what kind of religion we want taught, and since we can not agree, no religion at all is taught. But you say we could at least teach the Bible and let it speak its own religious message. But we can not agree on how to teach the Bible either. Here is a statement of one citizen relative to the place of the Bible in education.

> **The schools should cease teaching things contrary to the infallible Word of God as revealed in the Bible, such as the evolutionary theory, which has been disproved and discarded by the real leading scientists. Such teachings may and in many cases have destroyed the Christian faith of many pupils.**

Whether the Bible should be regarded in such a manner by our teachers need not be discussed here. Suffice it to say that most parents would not want it taught in that way.

The task of the teacher is not easy. The difficulty of the task has increased many fold within the past few decades. One cause of these added difficulties is the increase in the number attending school. Many of these do not care to learn anything. They would not be in school at all if they were not required to be there. Another source of difficulty is the added responsibilities now placed upon teachers which formerly were borne by others. The third source of difficulty is the conflict of demands placed upon the schools and the teachers.

EDUCATIONAL EVENTS

GRANTS FOR PHYSICAL TRAINING IN GREAT BRITAIN

DISCUSSIONS have taken place between the National Fitness Council for England and Wales and the University Grants Committee on increasing the facilities for physical training and recreation at all universities and university colleges in England and Wales. According to a report in the London *Times,* it has been found that, for technical and other reasons, it would

not be possible to deal with the question of grant-aid to these bodies through the normal procedure for the consideration of local projects under the Physical Training and Recreation Act.

Accordingly, an arrangement has been made with the concurrence of the Treasury, between the National Fitness Council for England and Wales and the University Grants Committee, whereby a sum of £200,000 has been made available in the form of grant-aid to university institutions in England and Wales, through the medium of the University Grants Committee, towards the capital cost of the provision of increased facilities.

At the same time it is emphasized that the provision of such facilities would not alone achieve the object desired, which is to lift the whole question of physical education into a more significant place in the university curriculum, and to make opportunities for physical training more widely available to university students. In the course of the discussions which have taken place three points have been stressed as being of primary importance:

The provision for skilled instruction by properly qualified staff;

Such arrangements for medical inspection as may be appropriate;

The desirability of the appointment at each institution of a university committee (with student representation) composed of those particularly interested from the standpoint of the educational and medical utility of the schemes.

A careful survey has been made by the University Grants Committee, in consultation with the universities and university colleges concerned, of the needs in each case and the estimated cost of meeting them. The grants offered are grants-in-aid, the institution meeting the remainder of the capital charges, as well as the charges of future maintenance involved by the scheme in each case. Generally speaking, the facilities to be provided are particularly intended to enable profitable use to be made of "the spare half-hour" for physical training and recreation in, for example, gymnasia, swimming baths, fives courts and squash courts.

The *Times* states that it is hoped that the plans which have been formulated will be put into active operation at the earliest possible date, and the university institutions have been asked to consider the offer of the grant as soon as it is received, so that it may be intimated by July whether the offer is accepted, and so that, if it is accepted, the necessary facilities may be provided by the autumn of 1939 or possibly, where special difficulties arise, a year later.

COST AND ACCOMPLISHMENT IN THE ELEMENTARY SCHOOLS OF ILLINOIS

A REPORT of a study made by the Illinois Education Association is the first of its kind in Illinois to use standard tests to determine the relationship between the cost and accomplishment in elementary schools. Children in the cheapest school were found to lag as much as four and five years behind pupils in high-cost schools in reading, arithmetic, language and geography. This is contrary to the predictions of the expert advisers of the study, who pointed out that since the poorer schools taught only a few subjects they should be doing better work in those subjects than the high-cost schools with their wide curricula.

From the elementary schools enroling 250 to 500 pupils, eight schools spending the most per pupil, eight of average expenditure, and eight of lowest expenditure, were selected for study. A median expenditure per pupil for the high-cost group was $95.38; for the average, $52.94; and for the low group, $32.18.

The seventh-grade testing lowest in reading, arithmetic, language and intelligence was found in the town of lowest cost per pupil, shortest term and poorest equipment. The town having the largest class size and the fewest library books tested lowest in eighth-grade reading ability. A comparison of the entire high-cost group with the entire low-cost group shows that the low-cost group lags as much as two years in the traditional subjects.

The type of school studied, enroling from 250 to 500 pupils, will not be abandoned in the process of larger district reorganization. Median assessed valuation per pupil was found to be $2,500 in the low cost group, and $8,000 in the high cost group. Tax rates are slightly higher in the low-cost school districts.

The low-cost level schools have the weaker program of physical and health education; lack much equipment and professional service needed

in a defensible health program; do less in ascertaining individual differences and personnel needs and have a meager personnel accounting system; and do less than the upper expenditure schools in broadening the pupil's interests through recreational and educational activities outside the regular day-by-day work.

Also the financially handicapped schools have fewer especially equipped rooms, and do less in departmentalizing school work; give less individual attention to pupils on account of larger classes; have a shorter term; have fewer curricular projects in revision, correlation, and the like; and have in no instance a kindergarten.

The low-level districts have fewer opportunities in music; have fewer student activities and less club work; offer a curriculum narrower than that found in the high-level districts; and have poorer library facilities. The low expenditure cities do not do as well in supplying magazines for children, in providing instructional supplies, vocational study materials, primary grade equipment, playground equipment, musical instruments, visual aids, or in supplying special rooms and duplicating service for teachers. Also the low-level districts are at a disadvantage in providing for the care of children's clothing and supplies, in having professional magazines for teachers, and in providing and equipping an office for administration.

Financially handicapped systems have teachers not as well trained as those in the high-level cities; have a much lower salary schedule, tending less to grant increments for experience and additional training; were neither as able to maintain customary salary levels during the depression nor as able to make salary restorations in recent years; have fewer special teachers and supervisors, fewer designated principals in the various school buildings, and less secretarial assistance for the office of the superintendent; have less administration service than do the high-cost schools; and offer fewer opportunities for administrators to attend educational meetings at district expense.

REDUCTION IN THE SIZE OF CLASSES IN THE ELEMENTARY SCHOOLS OF NEW YORK CITY

AN announcement made by Dr. Harold G. Campbell, superintendent of schools of New York City, summarized in *The New York Times*, reports that the average size of classes in the elementary schools of New York City is at the lowest point in the history of the school system. On March 31 last, the date at which the figures were compiled, the elementary school average class size was 34.7 pupils, a full point lower than the 35.7 figure for the preceding October 31 and 1.2 lower than on March 31, 1937.

Statistics show that never before in the history of the New York public school system have classes been so small.

The figures were prepared under the direction of Eugene A. Nifenecker, director of reference, research and statistics. They show that nearly one third—31.6 per cent.—classes have between thirty and thirty-four pupils to a teacher, and that 28.4 per cent. have between thirty-five and thirty-nine.

On the lower end of the scale there are 651, or 3.8 per cent. of the classes, with less than twenty-five pupils. On the upper end of the scale, classes of fifty-five or more have been completely eliminated, while only five classes have more than fifty pupils. The group with forty-five to forty-nine pupils consists of 836 classes or 4.9 per cent. More small classes and fewer large ones are reported this year as compared with last year.

The 1A grades have the smallest classes with an average of 30.6 pupils. The 1B classes have an average of 33.2 pupils, while the 2A classes have 33.1. The 2B and 3A classes report 34.4 pupils. The higher grades have a fraction over 35 pupils to a class.

The following tabulation given in the *Times* shows the number of classes of each size on March 31 last as compared with March 31, 1937:

Size	1938	1937
Less than 25	651	408
25–29	2,363	1,825
30–34	5,382	4,878
35–39	4,848	5,363
40–44	2,975	3,592
45–49	836	1,235
50–54	5	11

The following table shows the distribution of class sizes on a percentage basis:

Size	1938	1937
Less than 25	3.8	4.4
25–29	13.9	22.6
30–34	31.6	34.5
35–39	28.4	22.6
40–44	17.4	10.7
45–49	4.9	1.2
50–54	.....	.....
Total	100.0	100.0

THE ESTABLISHMENT OF NEW LIBRARY SCHOOLS

IN 1932 the American Library Association Board of Education for Librarianship issued recommendations aimed at relieving the unemployment situation in libraries during the depression period. These recommendations advocated that library schools reduce the number of students, that the establishment of new agencies for education of librarians be discouraged, that employers of librarians raise professional requirements for library positions and that library school faculties and librarians generally give special attention to recruiting to librarianship only young people with marked ability and high scholarship. In 1934 the board repeated these recommendations and emphasized the need for increased vigilance in the selection of students.

The board is now aware that certain changes in the last two years are contributing to a reviving interest in the establishment of new library schools. Employment conditions in libraries are improved; state and regional standards for school libraries affect librarians in more states; the legal certification of librarians is more generally accepted as desirable. Local pressure is stimulating educational institutions in many states to establish either library schools or agencies which give less than a year of professional library training.

The board recognizes that the enforcement of state and regional standards for school libraries has created an unusual and widespread demand for librarians in schools. More than two hundred agencies are now engaged in preparing librarians and teachers for school library service. Many of these agencies were established ill-advisedly and comparatively few of them meet the standards contained in the following recommendations. All institutions which give courses in library science are urged to reconsider such courses in relation to these recommendations and particularly to join with other institutions serving the same area, in an effort to curtail the continuation of too large a number of training agencies.

The Board of Education for Librarianship has no authority to prevent the establishment of a library school or other training agency. However, it is authorized by the American Library Association to establish minimum requirements for accreditation and to recommend desirable improvements in all institutions concerned with the education of librarians.

The board wishes therefore to recommend:

1. That all institutions which contemplate the establishment of a library school investigate thoroughly the financial obligation involved. Too much emphasis can not be placed upon the necessity for ample financial support, for proper library resources and equipment, and especially for a qualified teaching staff of adequate size.

2. That no institution should consider the establishment of a library school until its library has met high standards of financial support, book collections and library staff.

3. That each of these institutions make a careful and detailed study of the personnel needs and actual demands, both present and potential, of the libraries in the area it serves before establishing a library school. It is recognized that new schools may be justified in some areas where library training agencies are not accessible. In other areas the accessibility of established library schools may make undesirable the establishment of a new school.

4. That each institution determine the objectives and character of the proposed library school on the basis of its study of library needs.

5. That each institution scrutinize its own library resources in special relation to the objectives of the proposed library school. Most college and university library book collections which are reasonably adequate for service to students and faculty in academic fields fall far short of supplying the needs of a professional school of librarianship. The acquisition of such materials is expensive and is a factor of prime importance in the establishment and development of any library training agency. The presence of a well-organized and adequate training school library under the direction of a qualified staff is an essential in an agency which trains for library service in schools.

THE ENDOWMENT OF THE BIOLOGICAL SCIENCES AT THE UNIVERSITY OF CHICAGO

THE Rockefeller Foundation has made a conditional grant of $1,500,000 to the University of

Chicago for endowment of research in the biological sciences. To obtain the grant the university must secure an additional sum of $500,000 from outside sources before June 30, 1941. During the next three years the foundation will provide the sum of $180,000, for biological research, at the rate of not more than $60,000 a year. This grant has been made so that the equivalent of the income of the capital sum of $1,500,000 will be available during the period allowed for raising the matching sum of $500,000. Should the university be able to meet the condition in a shorter period, the temporary annual grants will be cancelled.

Since 1929 the foundation has been providing annual grants for support of basic laboratory research in fundamental biological problems. The endowment will permanently support this investigation, on a somewhat larger scale than in the past.

The announcement made by President Hutchins reads:

> Because this grant is one that is vital to the university's research in the cause and treatment of disease, we shall make every effort to secure the matching funds from friends of the university.
>
> Fundamental research in the biological sciences must be carried on to achieve systematic advance in medicine. When the General Education Board gave us $3,000,000 in December, 1936, to develop our Medical School, it specifically recognized this relationship.
>
> The university's clinical work, conducted for research purposes, is in close cooperation with the natural sciences departments. We recently appointed an eminent physicist, Dr. James Franck, to a professorship in physical chemistry to study a biological problem. Medical research at the university to-day is a cooperative enterprise reaching from the hospitals into such remote fields as botany. The offer of the foundation, therefore, is of great importance to our program.

Many leading investigators in the university and much of its important research work have been supported in part by the annual grants of the foundation during the past ten years. According to Dr. William H. Taliaferro, dean of the Division of Biological Sciences, the grants have "yielded results out of all proportion to the sums invested." The money has been used to provide impetus to long-term projects begun and partly financed with university funds, and to begin new projects of unusual promise.

The recent discovery by Dr. Lester Dragstedt of lipocaic, the hormone which enables diabetics to utilize fat, as insulin does sugar, was one of the projects supported by the annual grant. Two of the most important of the long-term projects assisted were the work of Professor Fred C. Koch, biochemist, on sex hormones, and the studies of Professors Frank R. Lillie and Carl H. Moore on the biology of sex. The research of Dean William H. Taliaferro on the mechanism of immunity, particularly to diseases caused by parasites, also received allotments from the grants.

Allotments were made last year to 26 projects, ranging from $14,000 to $100. These included research in bacteriology, anatomy, botany, physiology, biochemistry, neurology, psychology, zoology and mathematical biophysics.

IN HONOR OF GUY STANTON FORD

DR. GUY STANTON FORD, acting president of the University of Minnesota, was honored on his birthday, May 9, at a dinner given by the social science faculties of the university in recognition of his twenty-five years service to the university as dean of the graduate school. More than two hundred faculty members and their wives attended the dinner in the ballroom of the Minnesota Union.

Dr. John T. Tate, dean of the College of Science, Literature and the Arts, who spoke for the University of Minnesota Press, presented Dean Ford with the first copy of his collected papers, "On and Off the Campus," which came from the press that day.

Other speakers were: Theodore C. Blegen, professor of history and superintendent of the Minnesota Historical Society; Louis B. Wilson, director emeritus of the Mayo Foundation; William Anderson, chairman of the department of political science, and Clarence M. Jackson, head of the department of anatomy. Joseph M. Thomas, assistant dean of the Senior College of Science, Literature and the Arts, served as toastmaster.

Each guest received, with the compliments of the University of Minnesota Press, a copy of a brochure, "Celebrating Twenty-Five Years of Leadership in Higher Education, by Guy Stanton Ford," containing an appreciation of Dean Ford by the historian, Charles A. Beard. Dr. Beard's appreciation was one of many written

by Dean Ford's friends and associates to George E. Vincent, formerly president of the university, who prepared a biographical introduction for "On and Off the Campus." It is as follows:

I know no other scholar in America who may be called more disinterested in the best sense of that word. Dean Ford would rather enlarge knowledge and enrich wisdom than conquer an antagonist.

If I were called upon to "place" Dean Ford, I should be inclined to put him in the school of Emerson—not that moonshiny Emerson who appears in many books and papers written about him, but that informed, humorous, realistic and hard-headed Emerson who stands self-revealed in the pages of his journals. By many of our bright youth, no doubt, Emerson is regarded as outmoded. Did not Darwin or Marx say absolutely the last word on everything—past, present and future? Still, it may not be impertinent to say that no less a person than the late Justice Oliver Wendell Holmes looked upon Emerson as worthy of his affection. One afternoon when Justice Holmes was about ninety years young, I had a cup of tea with him in his Washington home, and I ventured to ask him in what author, ancient or modern, he found the most pleasure in his "solemn" hours. He quickly answered, "Emerson." Being unique, of course, Dean Ford does not belong to the school of Emerson or anybody else. Yet, it seems to me, he does connect with the Emersonian stream in tendency, even while he steers his way among headlands hitherto uncharted.

The worst luck I would wish Dean Ford is that expressed by Frederick York Powell when he said of Lord Acton: "He ought to be shut up in jail until he has written down what he knows." There is, however, something totalitarian about that decree and I shrink from imposing any penalty on Dean Ford, save that of remaining among us, as he is now, as long as he can and with his hand still to the plow.

EDUCATIONAL NOTES AND NEWS

DR. BENNETTE EUGENE GEER, for the last five years president of Furman University, has presented his resignation to the trustees.

DR. LIDA LEE TALL has resigned from the presidency of the State Teachers College at Towson, Md., after serving as president since 1920. At that time she succeeded Dr. Henry S. West, who resigned to become superintendent of the schools of Baltimore. She is succeeded by Miss M. Theresa Wiedefeld, since 1924 state supervisor of elementary schools.

MEMBERS of the faculty of Boston University who will retire at the end of the college year include: Professor Joseph Richard Taylor, Greek; Dr. Arthur W. Weysse, biology; Professor Alcide T.-M. deAndria, French; Professor Guillermo Hall, social sciences and Spanish, and Professor Agnes Knox Black, Snow professor of elocution, adviser of women.

DR. CALVIN BRYCE HOOVER, professor of economics at Duke University since 1925, has been appointed dean of the Graduate School of Arts and Sciences. He will succeed Dean William H. Glasson, who will continue as chairman of the department of economics and business administration.

DR. HARRY MILES JOHNSON has been appointed professor and head of the department of psychology in the College of Arts and Sciences of Tulane University. He succeeds Dr. John M. Fletcher, who will retire at the close of the current session.

DR. GEORGE D. STODDARD, dean of the Graduate College of the State University of Iowa, has been made head of the department of psychology. He also is director of the Iowa Child Welfare Research Station.

DR. LOUIS BERNARD SCHMIDT, head of the department of history at the Iowa State College, will be visiting professor of history during the summer for the fourth time at the University of Texas. He expects also to take part in the seventh summer session on international law and diplomacy which will be held at Ann Arbor, Mich., under the auspices of the Division of International Law of the Carnegie Endowment for International Peace, from June 27 to July 29.

DR. PAUL B. SEARS, of the University of Oklahoma, has been appointed professor of botany at Oberlin College.

IT is reported that at a special meeting of the Board of Education of New York City on May 18, Walter C. Martin was dismissed as

superintendent of school buildings. The position carried a salary of $25,000 a year. Two new bureaus were established and the work formerly carried on by Mr. Martin has been divided. Eric Kebbon, an architect, with offices at 522 Fifth Avenue, has been made superintendent of school buildings, design and construction with a salary of $17,500. Harold D. Hynds, a construction engineer, has been made superintendent of plant operation and maintenance at a salary of $12,500. Both posts are exempt from civil service.

MISS ELIZABETH T. FITZPATRICK, first assistant in biology at the George Washington High School, New York City, has been appointed principal of the Bay Ridge High School; Miss Margaret C. Byrne, first assistant in mathematics at the Bryant High School, has been appointed principal of the Wadleigh High School.

WARREN H. COCKLIN, assistant principal at Lower Merion, Pennsylvania, Senior High School, has been elected supervising principal of the Upper Merion township schools. He succeeds Lloyd A. Moll, who has been appointed dean of men and principal of the Junior High Demonstration School at Kutztown State Teachers College.

DR. ROBERT KENT GOOCH, professor of political science at the University of Virginia, has been appointed director of the 1938 Institute of Public Affairs. He takes the place of the late Dr. Charles G. Maphis, who organized the institute and who had been its director for twelve years. Professor Gooch was associated with Dean Maphis as assistant director of the tenth session.

GUY GAYLER CLARK has been appointed director of the day and night art schools of Cooper Union, New York City. He was formerly art director of *The New York Times* and a past president of the Art Directors Club of New York. He succeeds Austin Purves, Jr., who has been director for the past seven years.

PROFESSOR CHARLES E. RUSH, for the past seven years associate librarian of the Sterling Library of Yale University, has been appointed librarian of the Cleveland Library.

GEORGE L. HUBBELL, formerly mayor of Garden City, L. I., has been elected chairman of the board of trustees of Adelphi College, Brooklyn, N. Y.

WILLIAM B. NICHOLS was reelected on May 10 president of the annual meeting of the Board of Trustees of the Public Education Association of New York City. This is a citizen organization which was founded forty-three years ago to work for better public schools. Other officers elected at the meeting are: Mrs. Miriam Sutro Price, Mrs. Roger W. Straus and Frank E. Karelsen, Jr., *vice-presidents,* and M. R. Brownell, Jr., *treasurer.*

BRUCE E. MAHAN, of the State University of Iowa, was elected president at the Hot Springs, Ark., meeting of the National University Extension Association. The convention in 1939 will be held at the University of California at Berkeley.

THE University of Pennsylvania at its commencement exercises on June 15 will confer the doctorate of laws on Dr. James Rowland Angel, president emeritus of Yale University. The degree of master of arts will be conferred on James I. Wendell, headmaster of the Hill School, Pottstown.

THE honorary degree of doctor of theology was conferred on May 21 by the University of Upsala on Dr. Conrad J. Bergendoff, president of the Augustana College and Theological Seminary at Rock Island, Ill.

THE University of Montreal has conferred the doctorate of science on Dr. M. L. Fernald, Fisher professor of natural history at Harvard University. The presentation was made preceding a course in botany given at the university by Dr. Fernald.

THE degree of doctor of laws will be conferred at the commencement of Dickinson College, Carlisle, Pa., on Dr. H. C. Byrd, president of the University of Maryland.

AT the annual commencement exercises of Temple University on June 16 the honorary degree of doctor of pedagogy will be conferred on William Henry Welsh, director of school extension, Philadelphia.

SIR JAMES COLQUHOUN IRVINE, principal and vice-chancellor of St. Andrews University, Scotland, received the honorary degree of doctor of

laws on May 26 at a special convocation at Union College. The degree of doctor of civil law will be conferred on Sir James on June 22 by the University of Oxford.

THE Leslie Dana Gold Medal, awarded annually for "outstanding achievements in the prevention of blindness and the conservation of vision," will be presented this year to Dr. Ellice M. Alger, professor of ophthalmology at the New York Post-Graduate School of Medicine, which is affiliated with Columbia University. The award is made through the Association for Research in Ophthalmology and the St. Louis Society for the Blind.

THE honor medal of the School Garden Association of New York has been awarded to Ellen Eddy Shaw, curator of elementary instruction at the Brooklyn Botanic Garden, in recognition of her twenty-five years of service in developing school gardens throughout the city.

DR. FRANK J. O'BRIEN, who was appointed director of the Bureau of Child Guidance in the Department of Education, New York City, in April, was honored at a luncheon on May 22. The speakers included Austin H. MacCormick, commissioner of correction; Miss Margaret J. McCooey and William E. Grady, associate superintendents of schools; Miss Jane Hoey, director of social service for the Social Security Board; the Rev. Edward S. Pouthier, S.J., dean of the School of Social Service at Fordham University; Dr. George S. Stevenson, director of community clinics of the National Committee for Mental Hygiene; William Hodson, commissioner of public welfare; Stanley P. Davies, director of the Charity Organization Society, and Mrs. Johanna Lindlof, member of the Board of Education.

DR. JOSEPH F. THORNING, professor of sociology and social history at Mount St. Mary's College, Emmitsburg, Md., attended the International Eucharistic Congress at Budapest. Before returning he will make a study of socialistic and economic conditions throughout Europe.

DR. THEODORE CHEN, dean of Fukien University at Foochow, China, on May 21 addressed the committee for the China Christian Colleges on the situations under war conditions of Chinese universities. Dr. Charles K. Edmunds, president of Pomona College, presided at the afternoon session.

PRESIDENT THOMAS N. BARROWS, of Lawrence College, was the main speaker at the convocation and the banquet on Honors Day of the Iowa State College on May 26. At the banquet he spoke on "Adult Education." The celebration of honors day is under the joint sponsorship of the chapter of the American Association of University Professors and of the college faculty.

DR. EMORY W. HUNT, president emeritus of Bucknell University, died on May 20. He was seventy-six years old.

DR. SAMUEL SUMNER EDMANDS, for twenty-eight years director of the School of Science and Technology at Pratt Institute, Brooklyn N. Y., died on May 24 as the result of injuries received in an automobile accident. He was sixty-one years old.

FRANK E. ELLSWORTH, director of teacher training at Western State Teachers College since 1916, previously superintendent of schools in various cities in Michigan and president of the Michigan Education Association, died on May 20. He was sixty-five years old.

CHARLES LORING BRACE, who abandoned his career as railway construction engineer in order to serve as secretary of the Children's Aid Society of New York City, founded by his father in 1853, died on May 24. He served the society as secretary for more than thirty-seven years.

BY the will of Valentine Everit Macy, who died last March, the sum of $500,000 is left to Teachers College, Columbia University, and $100,000 each to the Henry Street Settlement and the Metropolitan Museum of Art, New York City.

THE HONORABLE CORDELL HULL, Secretary of State, conferred on May 23 with a group of American educators in regard to formulating a coordinated program for the promotion of cultural relations with the American republics. Among those in attendance were Dr. Frank Aydelotte, president of Swarthmore College; Dr. Isaiah Bowman, president of the Johns Hopkins University; Dr. Frederick P. Keppel, president of the Carnegie Corporation, New York; Dr. John C. Merriam, president of the Carnegie

Institution, Washington; L. S. Rowe, director of the Pan-American Union, Washington; Dr. David H. Stevens, of the Rockefeller Foundation, New York, and Dr. John W. Studebaker, U. S. Commissioner of Education. Mr. Hull outlined the following possibilities: (1) A broad program of activities dealing with the exchange of teachers and students under the convention for the promotion of cultural relations signed at the Buenos Aires conference in 1936. (2) Means of encouraging the establishment of fellowships and scholarships between the institutions in the United States and the other American republics. (3) A plan for the selection of the best representative books in history, science, literature, the arts, etc., in this country.

A GUIDANCE INSTITUTE will be conducted by the University of New Hampshire on July 13 and 14 as part of its summer school program. General conferences, including such themes as guidance as an essential element in a well-organized school system, the teacher and the more common guidance functions, guidance programs for small urban and rural schools, school procedures for more effective teaching and more effective learning, and the problem of the out-of-school post adolescent, will be conducted by Dr. Ernest Butterfield, Commissioner of Education for the State of Connecticut; Dr. John W. Studebaker, U. S. Commissioner of Education, and others. Panel discussions will follow the lectures. Arrangements have also been made to conduct three demonstration clinic periods during which time specialists in the field of measurement will demonstrate the giving and scoring of various types of tests used in guidance programs. The tests will be administrated to persons attending the clinic. The institute has been planned for classroom teachers of elementary, junior and senior high schools, school counselors, principals of elementary and secondary schools, superintendents of schools, Civilian Conservation Corps education advisers, welfare workers and personnel directors.

THE British National Council of Physical Fitness plans to establish a national physical training college for teachers. The college when completed will include all the necessary facilities for the purposes of training and of teaching the subject, such as a residential college should provide, in addition to special requirements such as gymnasia, swimming baths, running tracks, a stadium and playing fields in surroundings which will be permanently secured from undesirable encroachments. Research will also be undertaken on such matters as the relation of physical fitness to nutrition, fatigue, heart tolerance and muscular exertion.

THE payment of grants out of the Education (Scotland) Fund to the four Scottish universities is recommended by the Committee of Inquiry appointed by Walter Elliot, Secretary of State for Scotland in April last year. The grants recommended amount in all to £43,000. The committee made the following explanation: "The first and most irresistible demand as it seemed to us was for the payments that are required to enable Glasgow and Edinburgh to balance their budgets. Those payments we estimate at £12,000 and £4,000, respectively. We are sure that it would everywhere be regarded as discreditable to Scotland if she were to permit the two largest of her ancient and famous universities to drift into bankruptcy, but merely to satisfy that urgent requirement would not be enough. We believe that after the solvency of the two universities which are in greatest straits is assured, all four must have some immediate addition to their income if they are to continue to discharge their important functions with efficiency. All we can venture to do is to fix a gross sum that appears to us commensurate with the most pressing needs of each of the four claimants. This we fix for St. Andrew's at £5,000, for Glasgow at £9,000, for Aberdeen at £4,000 and for Edinburgh at £9,000."

A NEW school, called the Nansen School, will be opened at Lillehammer, Norway, this autumn. It is intended for young men over eighteen years of age from all ranks of Norwegian society. The curriculum resembles that of the "people's universities," but it is proposed as well to encourage discussions on all sorts of subjects such as man in his physical and moral aspects, pedagogy, psychology, sociology and politics. The plan is to develop students capable of thinking for themselves along independent lines. Funds have been subscribed throughout Norway as a result of lectures given by the two directors. The students will have no fees to pay.

Nature writes: "Since the recent incorporation

of Austria into Germany, little precise knowledge has been available as to the result of the change upon the position of some distinguished Austrian men of science. Upon inquiry we are informed that Professor E. Schrödinger will continue to occupy the chair of theoretical physics in the University of Graz. The *Tagespost,* Graz, of March 30, publishes a letter from Professor Schrödinger to the senate of the university, in which be explains that he has not hitherto taken the active part expected of him in the National Socialist movement but is now glad to be reconciled to it. The last paragraph of his letter reads as follows: 'Well-wishing friends who overestimate my importance consider it right that the repentant confession which I made to them should be made in public. I too belong to those who seize the outstretched hand of peace, because, sitting at my writing-desk, I have misjudged up to the last the real will and the true destiny of my land. I make this confession readily and joyfully. I believe it is spoken out of the hearts of many, and I hope in doing this to serve my country.'"

SHORTER ARTICLES AND DISCUSSION

DISTINCTIVE FEATURES OF THE MODERN TEACHERS COLLEGE

ONE hundred years ago Horace Mann, secretary of the Massachusetts State Board of Education, was pioneering in the establishment of institutions for the professional education of teachers. To-day, a century after those pioneer efforts, there are in the United States more than three hundred colleges, municipal, state and endowed, whose chief function is teacher education. The schools established by Mann were not of college rank. The curriculum was short. Now our institutions all require high-school graduation for admission. The present course has been lengthened from one to two years, then to three years and more recently to four years. The movement for establishing four years as a minimum for the certification of teachers is spreading rapidly.

Among the teachers colleges are many of outstanding merit. They have achieved distinction and characteristics which indicate that excellent teachers, efficiently trained, are or soon will be available for all the children of all the people. These characteristics may be summarized under five different statements as follows:

(1) *The teachers college curricula are planned and administered to give students understandings in the major fields of human knowledge and specialization in their profession.*

Leaders among educators in teachers colleges maintain that the student is not well enough informed nor capable otherwise to have entire freedom in choosing what courses he will study. It is contended by these educators that such major fields as science, both biological and physical; the social studies, such as government, sociology and economics; art, music, literature and English usage are so important in the life of all students that each will be required to enroll for courses in these subjects and reach a standard of proficiency established as satisfactory by the college staff. It seems reasonable to assume that requiring college students to explore and master the fundamentals of these fields will help make their experiences more significant in this complex social world which is so highly dominated by science and scientific inventions.

In addition, the teachers college recognizes the necessity for specialization in teaching children. Although many excellent teachers have acquired their expertness through experience in the classroom, the teachers college maintains that professional education before certification safeguards the interests of the children to be taught. This professional education emphasizes psychology of childhood and adolescence, psychology of learning, history of education, procedures in teaching, principles of guidance, mental hygiene, curriculum construction, educational measurements, classroom management and principles of sociology and economics as they relate to the education of children.

These procedures are more likely to avoid the narrowness of the specialist on the one hand and the gullibility of the generalist on the other with greater probability that genuine scholarship may result.

(2) *The all-around development of the teachers college student is emphasized continually.*

There are apparently four major fields in which college students place great emphasis. These are athletics, creative arts, social activities and scholarship. Colleges become known for the achievement of their students in one or the other of these fields. Students within a college frequently choose one of these fields and become specialists in it with the consequent neglect of the others. The emphasis on athletics by organized alumni, the scholarship demanded by the faculty and natural lure of social activities and the urge to create all contend for supremacy in the life of the college student. The development of a special interest does according to the testimony of students give a great satisfaction. Athletic awards, honors systems, prizes of different kinds may function to develop students excessively in one direction at the expense of all-around development. That athlete who becomes a star at the expense of sound scholarship or the candidate for scholastic honors who injures his health in winning a membership to an honorary society are illustrations of college students who neglect their all-around development. The present-day teachers college strives earnestly to guide its students towards an all-around development without neglect or over-emphasis in any one particular field.

(3) *College experiences are articulated with those which have gone before.*

It is quite generally conceded that some colleges duplicate much of the high-school course of study. On the other hand, there are sometimes serious gaps between high-school and college instruction. American history courses in college are sometimes courses which throw little or no new light on the subject. Modern history courses are often duplicates of excellent courses taught in the high school. Chemistry classes in college frequently enroll students who have devoted a full year to the subject along with students who have devoted no study at all to the subject. Some college teachers of science openly boast that they prefer to get students into their classes who have not been spoiled by high-school instruction. These facts indicate a need for closer articulation. Such articulation is possible if college instructors will construct and use inventory tests at the beginning of each unit of instruction. Those students who have mastered the essentials of a unit might well have free time to devote to other subjects during the time the remainder of the class is studying that particular unit. The teachers college studies its students and helps each to plan a program which not only fills the gaps in the educational needs but also avoids needless duplication of previous educational experiences.

(4) *Instruction in teachers colleges is planned to aid students in interpreting current affairs.*

Some students are keenly alive to the problems which are puzzling modern society. Others are content to ignore such problems and concern themselves with the study of text-books somewhat removed from vital issues. Languages, mathematics, literature of another age and history without reference to the present sometimes make up the college student's program of studies. In teachers colleges each of these subjects is taught as basic to interpreting the situations which have created present-day problems. Students attend lectures which deal with current issues. Modern problems of a social-economic nature are analyzed. Attempts which have been made to solve these problems are evaluated. Some colleges require their students to give evidence in an objective examination of their understanding of current affairs. Such examinations along with teaching which emphasizes the materials of the curriculum as basic for explaining the present assist in making college experiences contribute to the development of a richer and fuller understanding by the student who is preparing to teach children.

(5) *Only those teachers who are both scholars and craftsmen are employed for positions in the teachers college classroom.*

From the student's view-point, the college professor should first of all render excellent service as a teacher. In selecting new staff members for positions in the teachers college, both the subject-matter specialists and the pure-educationist are avoided. Both are dangerous and neither has much to contribute. The subject-matter specialist who is not acquainted with children and unskilled in guidance and method is like a ship without a pilot. It drifts at sea, and it is only by chance that the cargo ever makes port. The pure-educationist, skilled in guidance and method, well-grounded in child psychology, but without mastery of subject-matter, rambles along like an empty freight train which speeds towards

its destination but delivers no goods and renders no service until some one loads its cars. The modern teachers college assures an increasingly fruitful experience for its students because it restricts its selection of staff members to those teachers who are masters in their fields, experts in psychology, capable in guidance and skilled in the craftsmanship of their profession.

SUMMARY

Could Horace Mann have looked ahead to see teachers colleges to-day with their broad curricula, their programs of personnel services, and with teachers, not only scholars in their subjects, but also expert craftsmen in their classrooms, he would have been substantiated in his belief that education of teachers is the bulwark of the American public schools.

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WHAT SHALL WE TEACH ADULTS?

THE problem of what to teach is peculiarly important when adult education is surveyed and scrutinized. Shall the material available be chosen as to whether or not it is specific or general, mediate or immediate, vocational or cultural, personal or social, local or national or international? Shall the theme of the materials selected be community-mindedness or earth-mindedness or cosmic-mindedness?

Shall there be instruction in morals, ethics and civic training? If so, what materials are most fitted to bring these messages and counsels to the intelligent adult possessed of good will and a generalized regard for social welfare? Shall we include law, economics, anthropology, etiquette, history, geography, mathematics, art, music, science and literature? If so, how much of these fields of learning shall be examined for presentation to adults?

These are crucial problems not only for teachers of adults, for administrators of schools of adult education, but also for the adults themselves who will be subjected to the type of education decided upon in the councils of educators.

Adult education in this country must be regarded as an outgrowth and offshoot of immigrant education. The aim of immigrant education is clear. Immigrants must be "Americanized." Of course, Americanization has many meanings and takes on many forms, but by and large we understand by Americanization a placing at the disposal of the prospective American citizen of those materials of language, civics and historical and social information which will give him an insight into American institutions and make it possible for him to get along and move with ease in an American community.

Naturally adult education is not confined to immigrants or prospective citizens and should not be confused with immigrant education. The aims of adult education are an extension of the aims of immigrant education in the sense of training citizens. We are no longer concerned with preparing immigrants for citizenship. Now we are attempting the task of turning citizens on a lower plane into citizens on a higher level of civilization and culture. We are concerned with raising the tone and character of the social life of the community.

To return then to our problem: What shall we teach adults? It is a vital and unsettled issue and should demand the earnest thought of every one connected with the adult education movement.

In answer to this query, some educators would answer offhand: "Give adults what they want, what they need. Find out their wants and needs and select the materials accordingly." But this answer is merely posing one question upon another. That is what we want to know? What do adults need and what do they want? Let us first answer this counter-question, and perhaps we shall be in a better position to find a solution to our original inquiry.

What do adults need? They need food, shelter, clothing, work to do, recreation, social life and security.

What do adults want? They want what they need on an ever-increasing and ever-improving scale. That is civilization. They want to be the recipients of the blessings and bounties of civilization.

What shall we teach adults? We shall teach adults so that they will be better equipped to fulfil their wants and needs. We shall teach them to be better able to dwell in the realm of culture, the world of science and in the ever-changing and ever-challenging circle of the world community.

More specifically, we shall teach adults: (1) Those activities and materials which are pleasurable; (2) those activities and materials which encourage peaceful thinking; (3) those activities and materials which are immediately valuable and useful; (4) those activities and materials which are therapeutic and give guidance in individual, sexual and social hygiene; (5) those activities and materials which deepen the appreciations, meanings and understandings of life; (6) those activities and materials which raise their dignity and position as citizens, as parents, as workers and as participants in social life; (7) those activities and materials which are recreational and restful; (8) those activities and materials which are communal and which inspire cooperation; (9) those activities and materials which are creative and which encourage self-expression; (10) those activities and materials which are liberating, which banish fear and superstition and which build up resistance against intimidation and lawless coercion. These activities and materials, it seems, must constitute the foundation upon which adult curriculums should effectively be built.

In connection with the larger problem of what to teach adults is the problem of the enrichment of adult life. Children have been given adumbrations of knowledge, outlines, isolated facts, bits here and there. Adults can not be satisfied with this. They demand an integrated view that will compose their confused and baffled selves. They need color and warmth, emotional nourishment, richness of thought to compensate for the losses due to mis-education, poverty, loss of security, fear, ignorance and maladjustment. They need to be revitalized and impregnated with new courage to live happily and peacefully and wisely the remaining years of their lives. We must give adults experiences and activities of high emotional content. Life to-day tends to emaciate the individual, to straightjacket the spirit, to congeal and distort the emotions, parparticularly in those situations and under those circumstances where adults live their daily lives. It is the task of adult education to try to remedy this hiatus in modern life. The approach, the method, the personality of the teacher, the sort of material used should be chosen and built in recognition of this fact.

Materials of enriching values, of highly satisfying content, profound in interest, full of courtesy, kindness, service, loyalty—these are the values upon which adult life feeds. These are the values which we must give adults.

We must seek to sound the many unsounded strings on the harp of their dormant lives. We must create new harmonies where only jars and jolts and unhappy tunes dwelt before. The esthetic, the dramatic, the musical, the fictional, the spiritual, the religious values must be made to live in the life of the adult seeking fulfilment of his incomplete destiny.

The time factor is important in adult education. Children can postpone their enjoyment and appreciation of life's values. Adults can not afford to wait. They must hit the bird on the wing. They must take life's pleasures as they come. They must strike swiftly at a fast-moving target.

The teacher and administrator of adult education must bear this time factor in mind. We must give the adult in the present the hope and the wisdom which almost a lifetime has denied him. Fortified with materials and activities of high emotional and enriching content plus a virile and appealing approach, the adult education movement can hope to conquer the boredom, the fatigue, the listlessness and the degeneration of the adult masses of our generation.

ABRAHAM KAUFMAN

NEW YORK CITY

SPECIAL CORRESPONDENCE

AN INVITATION TO TEACHERS OF SCIENCE

A BRIEF account of the first meeting of the committee appointed by the American Association for the Advancement of Science to consider the improvement of science in general education has already appeared in SCHOOL AND SOCIETY (May 21, 1938). This report was prepared by Professor Caldwell, as chairman of the older committee on The Place of Science in Education, which has sponsored this newer committee, and which assisted in its organization at Columbus on April 30–May 1.

This new committee will require the active co-

operation of many teachers of science at the college and university level if it succeeds in unearthing the information with the discovery of which it has been charged. It is hoped that such co-operation will be stimulated by a brief statement of the present objectives.

It is generally agreed that the training of professional scientists has reached a high degree of effectiveness in the United States. But there is increasing evidence, from many quarters, that the present contribution of science to the general education of the bulk of our citizens is not what it should be. To analyze this problem, to secure adequate information about what is already being done to improve matters, and to develop a program of investigation which will lead to more widespread improvement, is the task of this committee. More immediately, the committee has at its disposal sufficient funds to enable it to do preliminary work, in the hope that by the middle of 1939 a program of sufficient value to warrant further support can be developed and presented.

To accomplish this preliminary work effectively the widest cooperation from the scientific professions is necessary, and it is the purpose of this note to invite such assistance. Waiving any less direct considerations and placing the matter on the plane of enlightened self-interest, this cooperation ought to have a very practical outcome. For example, scientific work was the first to feel the pressure of retrenchment a few years ago, just when it should have been extended. With a public more adequately aware of the value of science there would be less danger of the repetition of such folly. There are other considerations of a more serious kind, but this one should suffice.

We have decided as our first step to invite the cooperation of individuals and societies as well as of teaching departments and divisions in our work. In carrying forward our preliminary work we should like to have submitted to us a detailed and precise statement of the aims that individuals, departments, or institutions are seeking to achieve in general science courses insofar as these go beyond preparation for technical and vocational training.

It should perhaps be mentioned that techniques have been developed to measure with considerable accuracy the degree to which any explicit aims are achieved by teaching. It is hoped that eventually the committee may be able to place facilities for such evaluation at the disposal of those who are interested. But obviously the first task is that of acting as a center for comparing and finding the common factors in the various objectives in science teaching for general education, taking due cognizance of the wide variation in local conditions, and searching for whatever common aspects there may be back of all this inevitable variety.

In addition, information as to studies already under way towards the coordination of science instruction, syllabi, special instructional methods including visual education, testing, and teacher preparation, will be welcomed.

Such material may be sent directly to the chairman of the committee, or to any of its members.

Tentatively the committee has phrased its immediate task as follows: "In connection with a preliminary survey, to request information concerning experimental modifications of general courses in the sciences at college level. A general course is defined as a course open to students without college prerequisites, which utilizes material from a considerable portion of the science in question; which should make a contribution to the general education of the student; and which is not primarily a preparation for further work in the subject."

L. W. TAYLOR, *Chairman*
OBERLIN COLLEGE
R. W. TYLER, *Vice-chairman*
OHIO STATE UNIVERSITY
A. C. KINSEY, *Secretary*
INDIANA UNIVERSITY

QUOTATIONS

PROBLEMS OF SECONDARY EDUCATION

THE unsolved problems of secondary education are exercising the minds of educators in all countries, and changes in Western Europe are continuous. Curtailments in Germany in recent years are matched by the expansions in France, where the institution of free secondary educa-

tion in successive stages is now complete, and has led to a considerable increase of numbers. The problem of over-production and unemployment, however, has aroused much anxiety in recent years, and has led, on the one hand, to a demand for technical as opposed to liberal education, and on the other hand has produced many proposals for a rigid curtailment of numbers entering the secondary schools, a curtailment which is to be fixed by a calculation of the needs of the country for several years ahead. It is argued by some that we can ascertain the wastage of doctors, lawyers, teachers, engineers and so on, and so discover the national requirements which the institutions of higher education must satisfy.

It is not a very convincing argument. Such a calculation would be difficult, because of the liability to interference from many unpredictable causes. One period may see a rapid expansion of the demand for doctors, when new national services are created and a general provision of health safeguards by the state is quickly developed; during another period the creation of new openings may not occur. So it is with all callings. Germany had a surplus of engineers a few years ago and cut down the supply; the task of rearmament is said to have revealed a serious shortage of skilled technicians, and to have necessitated the restoration of supplies abandoned only a few years earlier. To calculate national demands several years ahead becomes mere guessing, and the chances of correct guessing are exceedingly small.

There is another difficulty. The curtailment of secondary education to meet the demands only of certain specified professions and skilled occupations implies that it exists only for their sake. Yet nobody has ever made this assertion. Many people imply it, as when, referring to a boy who fails to pass the school certificate examination at 16, they say that for him secondary education was "wasted," or when, referring to a boy who leaves the secondary school and enters a lowly career, they say that he ought to have "done better." These views imply that secondary education is a preparation only for certain walks of life, that it should be kept highly selective and that it is a valuable privilege.

In England, where such statements are heard, the developments during the present century have been in an opposite direction. We have multiplied the number of secondary schools, and now have five times as many pupils there as compared with 1902. By the development of the scholarship system since 1907 we have opened the doors to the children of the workers. The free place system and the provision of maintenance allowances are largely responsible for the increase in numbers, for an overwhelming majority of the pupils began their education in elementary schools. The cry of "secondary education for all," which was met with some derision in the early days, was virtually accepted in the Hadow Report, and has won general approval. No doubt England was influenced by the example of Scotland and of Wales, where a larger proportion of pupils enjoy secondary education than in this country.

This view depends ultimately on a different philosophy from the one quoted above: it regards secondary education as the natural fulfilment of primary education, of value in itself and not necessarily restricting its recipients to a few occupations. The Board of Education has testified to the value of secondary education even for pupils with "but a limited appetite or capacity for serious intellectual studies"; they may learn to become "good members of the community and learn something of the spirit of service."

There is an opposition at work, then, in our conception of the purpose of secondary education, an opposition that expresses itself in the way we organize secondary schools and central schools, and in the way we select pupils for these schools. Until we know what we are selecting for we are not likely to clarify the methods we use. The same ambiguity is reflected in a recently published report,[1] compiled by a committee of 12 experts from France, Italy, Poland, Holland, Switzerland, Austria and Great Britain. The report begins by contrasting the older conception of secondary education as a preparation for a liberal profession with the needs of the modern world, with its increased economic activity, its commercial and industrial develop-

[1] La Coordination des Enseignements du second degré. Institut International de Cooperation Intellectuelle. Paris. 1938.

ments and the demands of the workers for higher education. These changes require the reorganization of secondary education—not only its greater provision, but more especially the supply of differentiated instruction according to the pupils' capacities: "We must organize a plan of studies and a system of schools which will allow the pupil to acquire, under the best possible conditions, the knowledge he needs, and guide him in the most rational way in the choice of a career."

This general aim is not further defined, and the report plunges almost at once into the problem of selection. How many we are to select, and for what careers we are selecting, is nowhere discussed. The report lays down with much greater precision the views of the committee on other problems. The task of directing the child towards the kind of teaching best adapted to his capacity is difficult, and apparent intelligence is not the only criterion. The state should not constrain. The child's own choice, the parent's wishes and the social *milieu* of the pupil are all to be taken into consideration, yet the validity of these factors is not easy to evaluate.—*The Educational Supplement of the London Times.*

SOCIETIES AND MEETINGS

THE AMERICAN ASSOCIATION FOR ADULT EDUCATION

THE thirteenth annual meeting of the American Association for Adult Education, held in Asbury Park, N. J., on May 16, 17 and 18, was attended by some two hundred members and invited guests of the association. The question of the advisability of federal aid for adult education was raised by Morse A. Cartwright, director of the association, in his annual report, delivered at the opening session. Dr. Cartwright said:

In the last few months there have been advanced by official government groups and committees, by congressmen and by pressure groups and lobbies having access to congressmen a series of proposals calling for the heavy subsidization of education, including adult education, by the Federal Government. Educators are divided on the issue as to the desirability of these grants, although there is reason to believe that the majority of them are in favor of governmental subsidy.

Between 60 and 70 per cent. of the 27,000,000 adults in the nation participating in educational activities are dependent in large measure upon public tax-supported agencies for their educational service. Assessing a conservative ten dollars a year against each of the fifteen million adults deriving service from the public schools, the libraries, the museums, the agricultural extension services, and so forth, the annually recurring bill becomes $150,000,000, which, even in these days of lavish government spending, is an item to cause taxpayers and politicians to ponder.

Education, according to our tradition and custom, is a local matter with which each community is rightfully empowered to proceed in its own way. But gradually over the years the purely local support of education has been superseded by a system that permits of principal local support augmented by grants from other governmental sources for certain purposes. The extent to which the purely local control of education has become impaired by the acceptance of outside funds for support is difficult to generalize upon. The record the country over depicts a comforting amount of local resistance to bureaucratic control by both state and Federal agencies. . . .

BUREAUCRATIC CONTROL

There is a curious unwillingness on the part of the leaders of educational groups to discuss the dangers of bureaucratic interference with local control of education, for fear that to do so will imperil the granting of funds sorely needed for the conduct of education. They seem neither willing to raise the prior question of an inequitable tax base nor to stipulate forcibly in advance that they will brook no interference in education as a matter primarily of local concern. They seem to be willing to lose interest in their birthright as long as the pottage provided is plentiful.

What should be the position of adult education and of adult educators on this issue? It is not advocated that the American Association for Adult Education take a stand on one side or the other, but each member of the association should have a personal opinion on the question.

If non-interference with the local control of general child education is important, is not a policy of hands off local control of general adult education doubly so? Facing a growing and almost a dominating interest in the social sciences, adult educa-

tion must deal with current issues involving governmental policy. Fifteen million votes, or even a considerable fraction thereof, would decide any national election of any national question submitted to the electorate. Through governmental subsidy, would it not be possible for a political party or pressure group to exercise enormous control of the electorate? If demagogues should seize the reins of a Washington bureaucracy and should wish to direct the content of educational discussion by pressure upon the purse strings, would they not be aided and abetted by small demagogues presiding over smaller bureaucracies in the several states? Might they not find it possible to dictate an election without difficulty, and would they not find a federally supported program of education a perfect tool for Fascism, Communism, or any extremism, or a perfect support for any sorely tried political party in power seeking to perpetuate itself?

Would it not be wise seriously to question all new funds from national sources in support either of the general education of adults or for specific purposes? In case Federal enabling legislation is passed, should we not attempt both in the states and in the local communities to set up nonpartisan and nonsectarian boards and committees whose chief duty it would be to guard against misuses of the kind that have been suggested? We owe that much to our belief in adult education as a democratic process. For, if we desert the philosophy of democracy, adult education in this country is dead and we become the propagandistic agents of some form of totalitarian state.

Following Mr. Cartwright's report members of the study staff of the association made brief summaries of the studies in the social significance of adult education. The sixteen subject-matter fields on which reports were based include: Adult education in the library; rural library services; agricultural extension; adult education in art and science museums; forums; radio education; music and adult education; the drama as an adult education medium; the social settlement and the social work organization in relation to adult education; parent education; health education; community schools of adult education; women's clubs and organizations; men's clubs and organizations; adult education in churches; the trade association and adult education.

These subject-matter fields formed the basis for discussion at the eight colloquies held during the meeting. The colloquy, a new discussion device, was used for the first time by the association. The colloquy is a combination of the panel method and the so-called "hearings" of legal bodies. Each colloquy was in charge of a leader known as the interlocutor, who was accompanied by two or more associates chosen from the audience. The members of the panel, made up of members of the study staff, occupied a place on the dais with the interlocutor and his associates, and took part in the discussion, though, however, not to the exclusion of the audience. The colloquy is designed to bring about participation in discussion on the part of the audience. The method proved successful, for, although the panel participated in the sessions, the main flow of discussion came from the audience. The colloquies were concerned with the following questions: For whom are we working? Are we giving them what they want? Who are our leaders and how are they trained? What degree of freedom is there in adult education? To what extent do we educate for social action? Are we overemphasizing method? How is adult education affected by forms of government? What are the discernible trends in adult education?

William A. Neilson, president of the association, in an address on "The Reading Process," declared that "the most careful of us fails to get anything like the full value out of any substantial piece of literature, partly because we have accustomed ourselves to a great deal of superficial reading and can't drop the habit even when we are challenged by a book which deserves serious and concentrated attention." He listed the obstacles to reading, such as poor eyesight, the habit of grouping together too short a span of words and the substituting of obscure professional terms for simple everyday words. He concluded that if people are to educate themselves through books they must have more training in the technique of reading.

John Finley, editor of the *New York Times,* was elected president of the association for 1938–39. Vice-presidents elected were: L. D. Coffman, Linda A. Eastman, Hans Kohn, Alexander Meiklejohn, Agnes Seasongood and John W. Studebaker. Officers reelected included: James E. Russell, *honorary chairman;* Alvin Johnson, *chairman;* Jennie M. Flexner, *secretary;* and Harold Stonier, *treasurer.*

DOROTHY ROWDEN

REPORTS

DEMOCRACY IN THE PRIVATE SCHOOLS OF PHILADELPHIA

THE fall meeting of the Private School Teachers Association of Philadelphia was centered around a discussion of democracy in our schools. The following quotation from an article by William H. Kilpatrick in the October number of *Childhood Education* seemed particularly appropriate. He said: "As for the schools, we in them must find ways of enthroning democracy in all their works. As it is, schoolroom and school system are but too often benevolent autocracies. A line-and-staff administration borrowed from the army, seeks to turn out a mass production of learning, essentially on a factory basis. We can not in such ways expect to teach democracy. Only as it is lived can it be learned. Specifically, every school procedure must embody democracy, and all concerned with any decision should share, actually in the making of it. On this basis alone should teachers work and pupils study."

In order to find out to what extent democracy really does function in our private schools here in the neighborhood of Philadelphia we sent the following questionnaire to our fifty member schools:

1. Have you a faculty representative on your board of trustees? Is he elected or appointed?
2. Is he a full voting member? Does he vote on financial as well as educational matters?
3. In what other ways do you use your faculty in school administration, such as: scholarships, curriculum, development, contacts with parents, advertising, any other type of activity?
4. Would you be willing to appoint a faculty member to elaborate on these matters from the floor?

Only nine schools were silent. The following information was obtained from the forty-one replies.

Six schools have one or more faculty representatives on their board of trustees. In four they are elected, in two, appointed. In each case they are full voting members on financial as well as educational matters. The following are quoted from replies made by two of these schools.

The Baldwin School said: "The faculty participate with authority in all aspects of the school. It is they who determine the curriculum. They make the usual friendly contacts with the parents, though there is nothing official about this. The point that I would emphasize is that there is no activity of any sort connected with the school in which faculty participation is not welcome."

The Miquon School said: "The staff is organized as a cooperative group and hence is quite thoroughly democratic. They draw up and pass the budget (including their own salaries) before it is presented to the board for approval. Teachers are discharged only after a full discussion by the staff and in the two instances by unanimous vote. They work out the policies and program of the school and in educational matters have complete authority."

Twenty schools reported that the principal is an *ex officio* member of the board of trustees and five of these have one or more administrative officers also attending. In fourteen of these schools he or they are full voting members or have full voice in all proceedings. But in six schools the principal attends meetings of the board of trustees but does not vote.

What is probably a common situation is described thus by one school: "In general the administrative activities are left with the head master, though he carries to the board the opinions of the faculty."

Twelve schools have no faculty representatives on the board. Probably a good many of them have their principals sitting on the boards but they did not say so. One of these schools once had a faculty member on the board of trustees but "has abandoned the practice at the request of the teachers who preferred to have a representative sit with the committee when matters that affected them are being discussed. This is seldom done."

Three schools are privately owned and have no board of trustees.

The nine schools that did not reply may almost certainly be placed in one of the last two groups.

To summarize: six schools out of fifty have faculty representatives on their boards of trustees. Of the forty-four remaining twenty stated that their principals, and in a few cases other administrative officers, sit on their boards. In only two-thirds of these cases do they vote.

Question 3, as you remember, read: "In what

other ways do you use your faculty in school administration?" All but three schools mentioned a number of these ways. A count revealed the following distribution: curriculum development 33, contacts with parents 26, advertising 12, scholarships 9. Other activities in which faculties take part in various schools include: extra-mural policies, extra-curricular activities, tests and measurements, college preparation and credits, rules and regulations, budget, social functions, and teacher appointments.

The answers revealed that almost every school has faculty committees on various subjects and the statement was made over and over again that in the running of the school the faculty plays a large part. Just how large a part faculties play may be gathered from some of the following quotations:

Haverford Friends' School: "Three teachers are appointed annually as heads of departments (or grade groups) which have jurisdiction in matters of curriculum development. There are also standing committees of teachers that have in charge either some piece of administration or some particular interest or need of the school. Their membership is voluntary and teachers change from one to another from time to time. They elect their chairman. Both groups report to the general faculty meetings held every six weeks where their recommendations are discussed and adopted or not as the case may be. Finally all teachers have two interviews a year with the parents of their pupils in which the very long and elaborate report which we use is discussed."

The Miquon School: "Each teacher has individual conferences with parents throughout the year and once a year has a meeting with all the parents of her group for a discussion on the group curriculum. The curriculum is a continuous staff meeting study."

Ellis College: "When it comes to curriculum development and school matters generally the entire faculty is taken completely in the administrative confidence and most of the initiative and plans that develop are from the faculty. As far as possible all internal school matters are faculty planned and conducted; the administration taking only a minimum part in the school program."

School in Rose Valley: "The school was founded and is administered by parents. Cooperation between parents and teaching staff is close in all matters although teachers do not actually hold any administrative position."

Stevens School: "School almost entirely cooperative, curriculum making, parent-teacher organization, consideration of budget, etc."

Germantown Friends' School: "Full cooperation is sought in all departments of the school life which are worked out as joint projects."

Girard College: "As far as the internal administration is concerned the members of our staff play a large role. It is a fair statement to say that no matter of far-reaching importance is discussed without a good share of staff participation in the decision."

George School: "Curriculum development is entirely in faculty hands."

One gets another picture, however, from the following: "My teachers have helped with the curriculum." "Assistant principal and deans are part time teachers yet have all sorts of duties connected with the items mentioned—other teachers used at times." "All these activities are under the control of the headmaster who uses one or more of the masters or consults with them."

There were some interesting answers to the question: "Would you be willing to appoint a faculty member to elaborate on these matters from the floor?"

"No—we are too busy with school work." (This from one of the schools having a teacher on the board of trustees.)

"I am not sure that there is any special interest in this question on the part of our faculty."

"I doubt if this would be possible."

"No—do not consider it worth discussing."

"Yes" scratched out and substituted "No. I cannot see the value of such a discussion, I fear, except to arouse dissatisfaction."

"That decision would rest with the Board. The headmaster would be willing to."

The word "appointed" was rightly resented by two who said:

"I will ask our faculty at their meeting whether they will authorize a volunteer representative to attend. I am too democratic to appoint one."

"Yes, I am willing to *request* a faculty member to speak on these matters."

It would not be fair to leave you with the impression that school principals as a whole do

not want to discuss these matters. A number of them took great pains to answer the questions fully and expressed their willingness to have their faculties represented in our discussions this evening.

What conclusions may be drawn from these facts? In the first place we find that in our private schools generally directors and principals know the value of teachers in the educational part of the administrative work and they make use of them in those respects. Those types have been enumerated already, and we are all familiar with them—curriculum making, contacts with parents, etc. We have progressed a long way from the proprietary school where all matters were decided by the administrators and teachers were asked only to teach. A few schools have taken the next step and finding their teachers wise and competent in forming educational policies have seen the advantage of using their knowledge and ability in forming administrative policies as well.

We are well acquainted with the arguments against teachers being represented by one of their own number on boards of trustees. It requires time. Teachers do not understand about matters discussed by boards or do not have the experience necessary to hold valuable opinions. They would be made uneasy by knowing all the ups and downs of school management. They, themselves, do not desire to know what goes on behind the scenes but would prefer to teach in blissful ignorance. So say those who do not wish to have teachers represented on school boards.

After all many teachers, if not all, have the wisdom, background and ability to contribute much to the running of a school in every detail. and most important of all the reasons for having teachers represented in all parts of school organization is that given by Dr. Kilpatrick. He said if we are to teach democracy in our schools we must live it. "Every school procedure must embody democracy and all concerned with any decision should share, actually, in the making of it. On this basis alone should teachers work and pupils study."

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EDUCATIONAL RESEARCH AND STATISTICS

VOCATIONAL EXPECTATIONS OF TEACHERS COLLEGE STUDENTS

THE survey reported below has had for its chief objective the determination of the vocational expectations of students enrolled in the Kansas State Teachers College, Emporia, in the fall of 1937.

The instrument for securing information was the familiar questionnaire-check list. Care was taken in the formulation of the check-list. The forms used in comparable surveys were utilized; deans and department heads were consulted; and preliminary "tryouts" were made of the list after it had been submitted in the making to selected students for their suggestions. Class time was utilized in filling out the questionnaire, and the work was all done in classes under the direction of one of the authors.

AGE COMPOSITION

There were 1,410 students available for consideration in the study. Of this number 1,270 (90.2 per cent.) turned in usable blanks. Of the number, 607 were freshmen, 295 were sophomores, 218 were juniors, and 150 were seniors.

The median age of the first-year men was 19.1 years; of the women, 18.7 years. Sophomore men were 20.7 years of age and the second-year women were 19.9 years of age. Junior men showed a median age of 21.8 years, and the third-year women were 20.7 years old. Senior men were 22.3 years of age at the mid point of the 19–30 year range, and senior women admitted their median age was 21.8 years. The mode for freshmen, both men and women, was 18 years; for sophomores, 19; for juniors, 20; and for seniors, 21 years. Although the median age for boys was greater in every class than for girls, there were in every class more girls over 25 years of age than there were boys.

TEACHING EXPERIENCE

Nine and three tenths per cent. of the 1,162 students, answering the query as to teaching experience, had taught. Ninety and seven tenths

had not. The percentages varied from 4.6 per cent. of the freshmen to 20 per cent. of the seniors. Only 2.7 per cent. of the freshman men had taught, while 6.1 per cent. of the first-year women had taught previous to having enough collegiate credit to be classed as sophomores. Twelve and three tenths per cent. of the senior men had taught, while 27.3 per cent. of the senior women possessed teaching experience for pay.

VOCATIONAL EXPECTATION

To the query "Do you expect to teach after leaving school?" 25 per cent. of the freshman men answered with an unconditional "Yes"; 34 per cent. answered "No." Approximately 24 per cent of the first-year men say it is "probable" that they will teach, and 17 per cent. say that "it is not probable" that they will teach.

Freshman women, however, are avowedly teaching candidates in the teacher-training institutions at Emporia. This is evidenced by the reply of "Yes" to the query on teaching expectancy from 57.9 per cent. of them, and of "No" from only 12.4 per cent. of them. To the "Yes" group is added 21.3 per cent. of the total that are not certain but say "Probably," and to the "No" group is added 8.4 per cent. of the total, who say "Not probable."

Teaching expectancy goes up with advanced classification in college, with the exception of sophomores, many of whom think they are pre-medics, pre-law and pre-engineering students, 40.3 per cent. of the sophomores answering "Yes" unconditionally; 54.1 per cent. of the juniors; and 64.7 per cent. of the seniors are certain they will teach. To these figures may be added 23 per cent. of the second-year students, who say "probably"; 25 per cent. of the juniors; and 13 per cent. of the seniors.

TEACHING EXPECTANCY OF STUDENTS WHO ALREADY POSSESS TEACHING EXPERIENCCE

One hundred per cent. of the freshman men *who have taught* for pay before receiving sophomore classification expect to continue teaching as a profession; 73 per cent. of the first-year-in-college women who have taught expect to continue; 75 per cent. of the sophomore men, 85 per cent. of the women; 50 per cent. of the junior men, 75 per cent. of the women and 89 per cent. of the senior men and 62 per cent. of the senior women who have had teaching experience expect to continue in the profession.

TYPES OF POSITIONS DESIRED

Approximately two thirds (62 per cent.) of the freshman men, expecting to teach, want to teach in *high school.* One third of the first year women have this desire. The desire to teach in high school is expressed by 65 per cent. of the sophomore men who expect to teach and by 29 per cent. of the women; 74 per cent. of the junior men and 54 per cent. of the women have high-school ambitions, and 82 per cent. of the senior men and 63 per cent. of the women look to high-school teaching as a profession. It is worthy of note that, while the desire for high-school employment moves up steadily for men from the first to the fourth years, the range is comparatively narrow, from 62 per cent. to 82 per cent. For women, the desire to teach in high school comes after the sophomore year is completed. The range is from 33 per cent. of freshman women to 63 per cent. for senior women, with the sophomore expectancy for high-school teaching being 29 per cent. and the junior year expectancy being 54 per cent. of those who plan to teach. That approximately 18 per cent. of the senior men look to administration work is developed in the survey but is precluded by space from comment here.

OCCUPATIONAL EXPECTANCY OTHER THAN TEACHING

What do students in a teachers college, located in a state known for its rural interests, who are not preparing for teaching plan to do? The question was answered by 398 students in the Kansas State Teachers College. If these students do what they plan to do, business will claim 21 per cent. of the freshman men, 20 per cent. of the sophomore men, 43 per cent. of the juniors and 18 per cent. of the seniors. Engineering is named as the ultimate professional goal of 32 per cent. of the freshman men (not planning to teach), 31 per cent. of the sophomores, no junior men and 9 per cent. of the seniors. Medicine is the goal of 7.4 per cent. of the 148 freshman men not intending to teach and of 6.5 per cent. of the 62 freshman women. Nine per cent. of the first-year women are going to be married soon, 6 per cent. of the sophomores, 9 per cent. of the juniors and 13 per cent. of the 34 senior

women not teaching expect to become housewives. Needless to say all expectancy as to any vocation has in it a large element of chance.

TEACHING A STEPPING-STONE

That teaching is still a stepping-stone to some other occupation is emphasized by the fact that 214 (53.9 per cent.) of 397 freshmen answering the query, "Do you expect to make teaching a step to some other vocation?" answered "Yes," while 172 (43.3 per cent.) said "No." One hundred twenty-eight (65.7 per cent.) of 195 sophomores said "Yes," while 59 (30 per cent.) answered "No." From the 172 replies from juniors received 99 (57.6 per cent.) were "Yes" to the query, 62 (36 per cent.) were "No." The seniors are slightly more definitely aligned to teaching, as is evidenced by the fact that 59 (50.9 per cent.) said that teaching was to be a "stepping-stone," while 50 (43 per cent.) said "No." Summaries indicate that 58 per cent. of the men and 42 per cent. of the women in this state teachers college were intending to use teaching as a stepping-stone to another vocation. Thirty-eight per cent. of the men and 52 per cent. of the women are in training (they say) definitely for teaching.

That expectancies as to the occupation to be followed after college graduation change is evidenced by the fact that 1937 sophomore men said that when they entered school in 1936 they intended to teach in but 26 per cent. of the cases but had such intention in 46 per cent. of the cases at the end of the next year. Junior men said they planned to teach when first enrolling in 55 per cent. of the cases but admitted a 74 per cent. expectancy two years later.

To summarize, the survey brings out these points:

(1) Freshman students upon entering school feel comparatively sure of what they expect to do upon leaving school but become less certain in the sophomore and junior years. Approximately 45 per cent. of all freshman and sophomore men and 80 per cent. of all junior and senior men expect to teach upon leaving college.

(2) From the data collected it is concluded that the men prefer high-school positions, but that women prefer grade school work when they are freshmen and sophomores but lean toward the high-school work when juniors and seniors.

(3) Men not planning to teach are inclined to business, engineering and agriculture in the order named. With the women, however, approximately 50 per cent. of those expecting to teach say frankly they expect to marry later and quit teaching.

(4) Vocational expectations change while students are in college and the change is decidedly toward teaching in this Kansas teachers college.

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